AMENDMENTS TO THE CLAIMS

1-20. (Cancelled).

21. (Currently Amended) A looped Wavelength Division Multiplexing (WDM) optical network comprising:

a plurality of nodes connected with a plurality of waveguides to form an optical loop, the optical loop including:

optical amplifiers between sections of the loop;

Amplified Spontaneous Emission (ASE) recirculation in the loop which is used for gain control; and

a link control laser configured to inject laser radiation centered around a λ_{LINK} wavelength into the loop at a point of the loop where it is desired that a lasing peak be generated and allowed to circulate in the loop to control lasing generated by the ASE recirculation.

22. (Previously Presented) The optical network of claim 21 wherein the laser radiation injection point is contained in a network amplification node.

23. (Previously Presented) The optical network of claim 22 wherein the laser radiation injection point is upstream of an Eribium-Doped Fiber Amplifier (EDFA) amplifier contained in said network amplification node.

24. (Previously Presented) The optical network of claim 21 wherein the λ_{LINK} wavelength is below a band of channels transmitted in the network.

25. (Previously Presented) The optical network of claim 24 wherein the λ_{LINK} wavelength is centered around 1530 nm or 1538 nm.

26. (Previously Presented) The optical network of claim 21 wherein the λ_{LINK} wavelength is above a band of signal channels transmitted in the network.

27. (Previously Presented) The optical network of claim 26 wherein the λ_{LINK} wavelength is centered around 1564 nm.

28. (Previously Presented) The optical network of claim 21 further comprising at least one high-pass optical filter along the loop, the at least one high-pass optical filter having a cut-off wavelength that is above the wavelength of an ASE peak of the network, but below the λ_{LINK} wavelength and a network channel signal band.

29. (Previously Presented) The optical network of claim 28 wherein the cut-off wavelength eliminates the accumulation of ASE below 1535 nm and wherein the λ_{LINK} wavelength is between the cut-off wavelength and a WDM signal band.

30. (Previously Presented) The optical network of claim 28 wherein the cut-off wavelength eliminates the accumulation of ASE below 1538 nm, and wherein the λ_{LINK} wavelength is slightly higher than a WDM signal band.

31. (Previously Presented) The optical network of claim 28 wherein the high-pass optical filter is present in a plurality of network amplifier nodes.

32. (Previously Presented) The optical network of claim 21 further comprising a redundant laser generation system having a plurality of lasers to produce the laser radiation.

33. (Previously Presented) The optical network of claim 32 wherein the redundant laser system comprises two lasers which are adapted to be selectively and alternatively activated.

34. (Previously Presented) The optical network of claim 21 further comprising:

a plurality of amplification nodes distributed along the loop, each amplification node comprising a laser source to input laser radiation with an emission wavelength around λ_{LINK} into the loop; and

each amplification node comprising a laser source control circuitry to detect the lasing light input power at the node, and to activate the laser source upon decay of said power to below a predetermined threshold.

35. (Previously Presented) The optical network of claim 34 wherein the laser source has an output power of at least approximately 10 dBm.

36. (Previously Presented) The optical network of claim 35 wherein the laser source control circuitry comprises:

a first splitter to send a fraction of the optical power input to a band-pass filter centered around λ_{LINK} and with a band at -3 dB on the order of a few nm output from the band-pass filter;

a threshold detector to receive a filtered signal from the band-pass filter, and to activate the laser source upon decay of the filtered signal to below said predetermined threshold; and

a second splitter to convey the laser radiation produced by the laser source together with signals input to an amplifier of the amplification node.

37. (Previously Presented) The optical network of claim 21 wherein the laser radiation is at a power selected to be between about -5 dBm and +10 dBm.

38. (Currently Amended) A method of link control in a looped WDM optical network comprising:

forming an optical loop to include optical amplifiers between loop sections and ASE recirculation in the loop; and

injecting link control laser radiation centered around a λ_{LINK} wavelength into the optical loop a point where a desired lasing peak is to be generated and made to circulate through the optical loop to control lasing generated by the ASE recirculation.

39. (Previously Presented) The method of claim 38 further comprising filtering the laser radiation circulating through the optical loop with a high-pass filter having a cut-off wavelength that is higher than the wavelength of an ASE peak in the network, but lower than the λ_{LINK} wavelength and a signal channel band in the network.

40. (Previously Presented) The method of claim 38 wherein the laser radiation power is selected to be between about -5 dBm and +10 dBm.